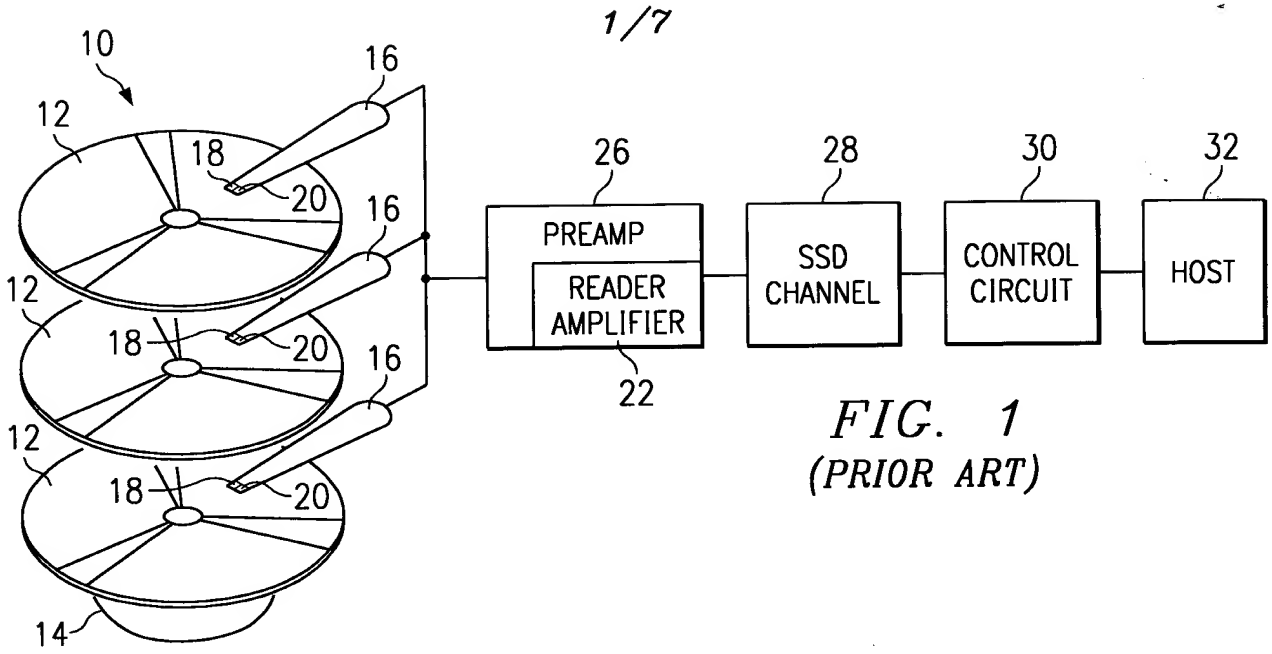

FIG. 1
(PRIOR ART)

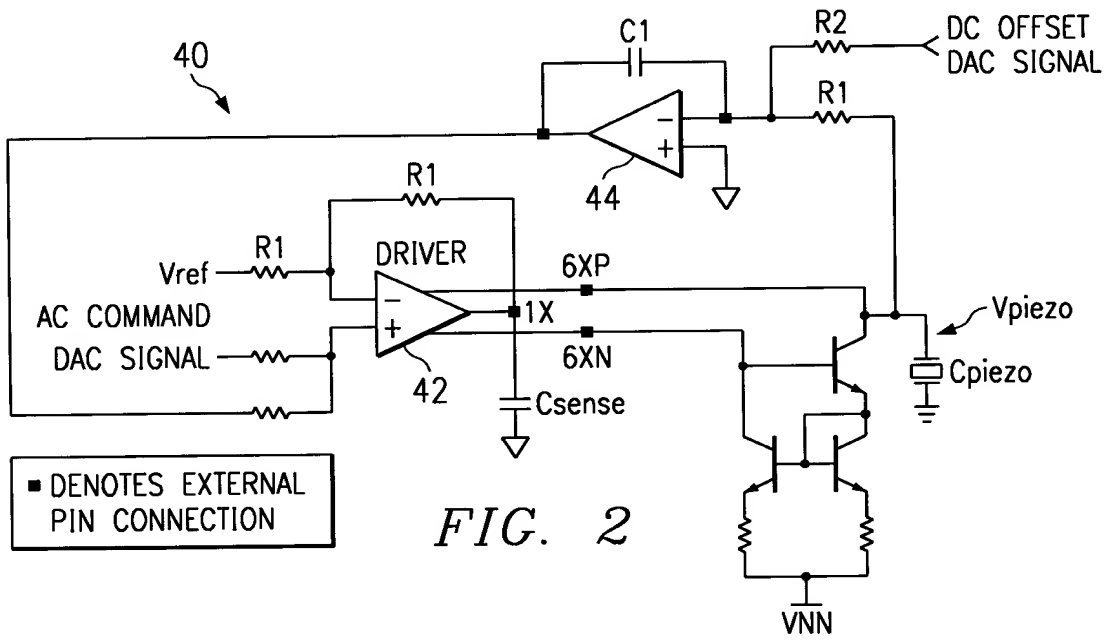

FIG. 2

$$Vpiezo = \frac{Qpiezo}{Cpiezo}$$

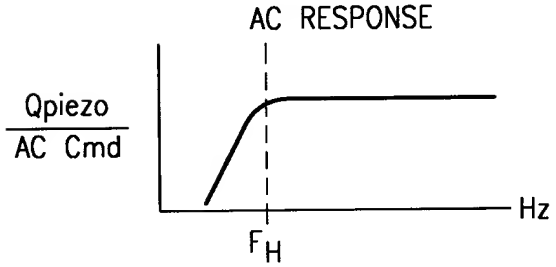

FIG. 3A

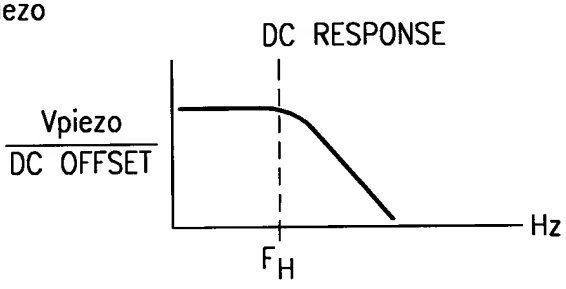

FIG. 3B

TO/280:hg5668650

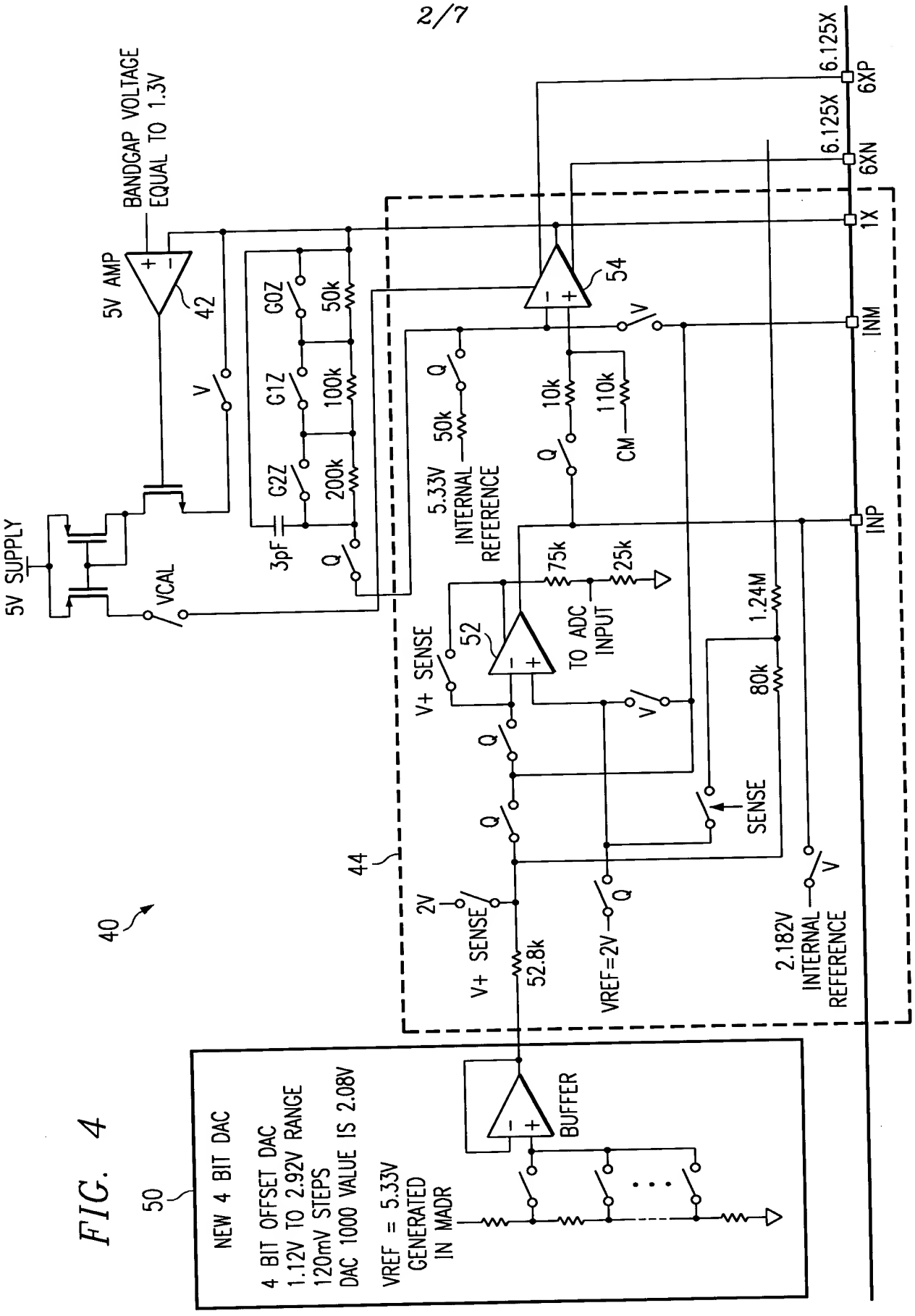

FIG. 4

TO280 "96860

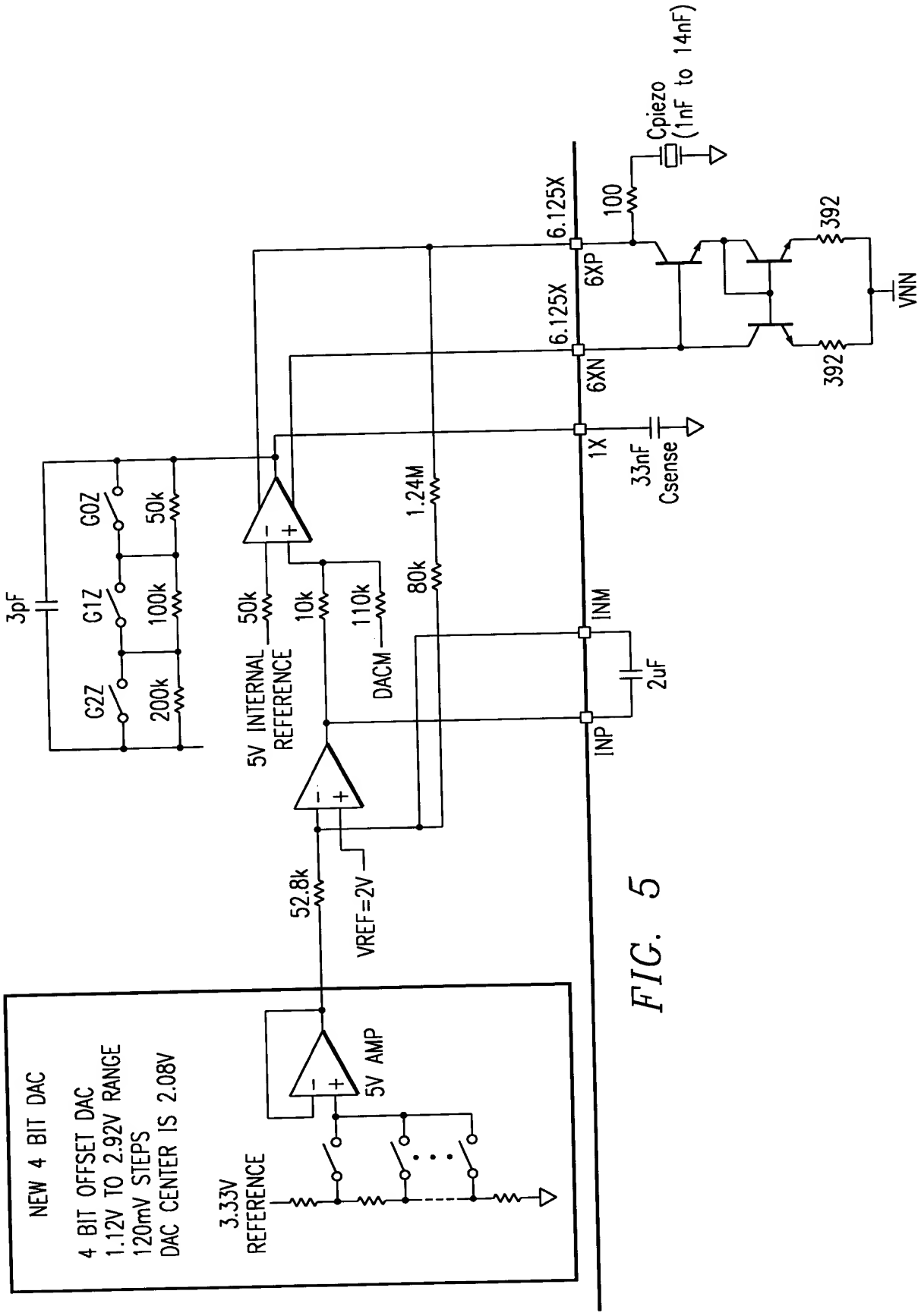
NEW 4 BIT DAC
4 BIT OFFSET DAC
1.12V TO 2.92V RANGE
120mV STEPS
DAC CENTER IS 2.08V
3.33V REFERENCE
5V AMP
VREF=2V
52.8k
5V INTERNAL REFERENCE
50k
10k
110k
DACM
80k
1.24M
3pF
G2Z
G1Z
G0Z
200k
100k
50k
INP
INM
2uF
1X
33nF Csense
6XN
6XP
6.125X
6.125X
100
Cpiezo (1nF to 14nF)
392
392
VNN

FIG. 5

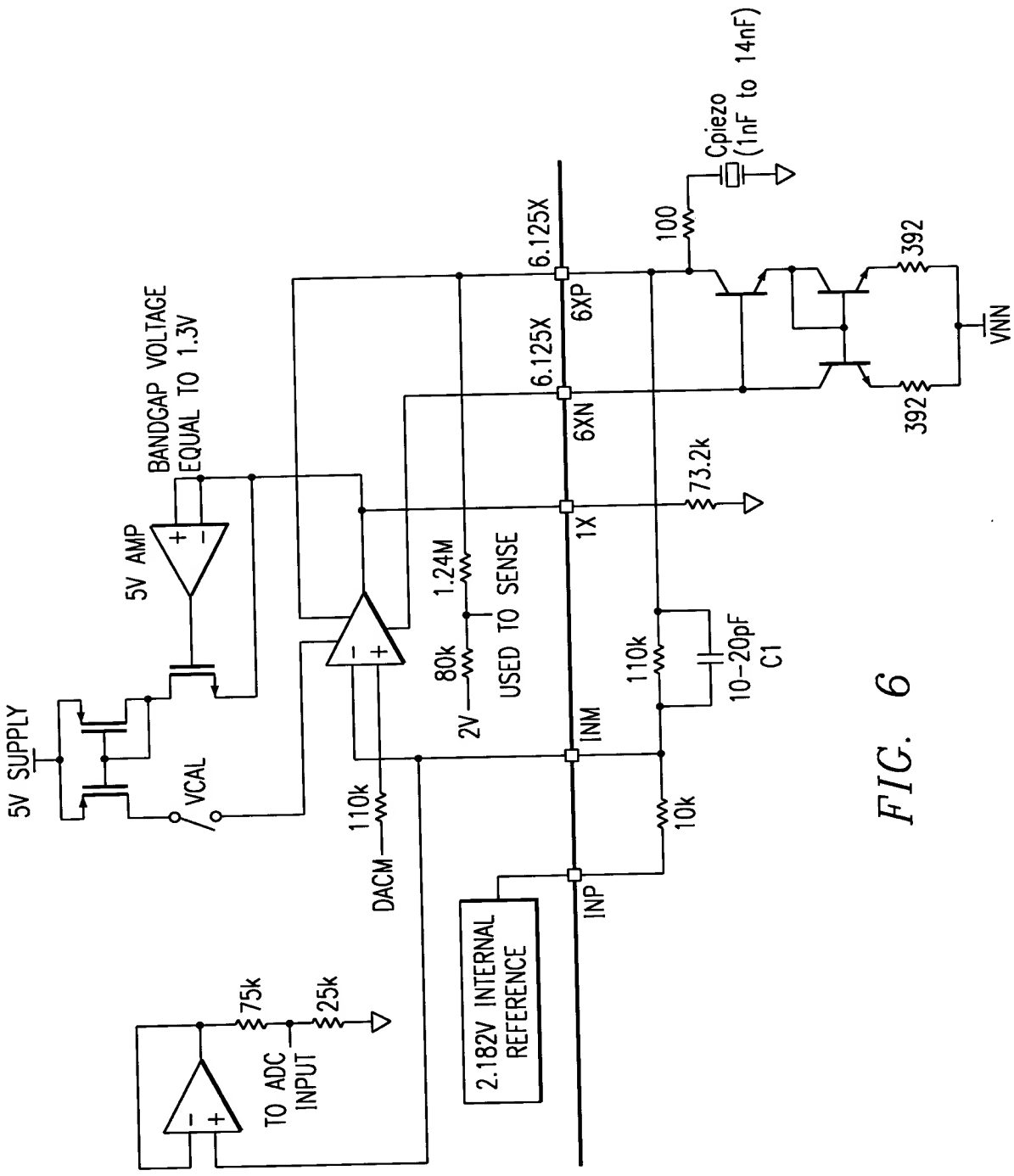
5V SUPPLY
VCAL
5V AMP
BANDGAP VOLTAGE
EQUAL TO 1.3V
110k
DACM
75k
25k
TO ADC
INPUT
2.182V INTERNAL
REFERENCE
80k
1.24M
2V
USED TO SENSE
INP
INM
1X
6XN
6XP
6.125X
6.125X
73.2k
110k
10k
10-20pF
C1
100
Cpiezo
(1nF to 14nF)
392
392
VNN

FIG. 6

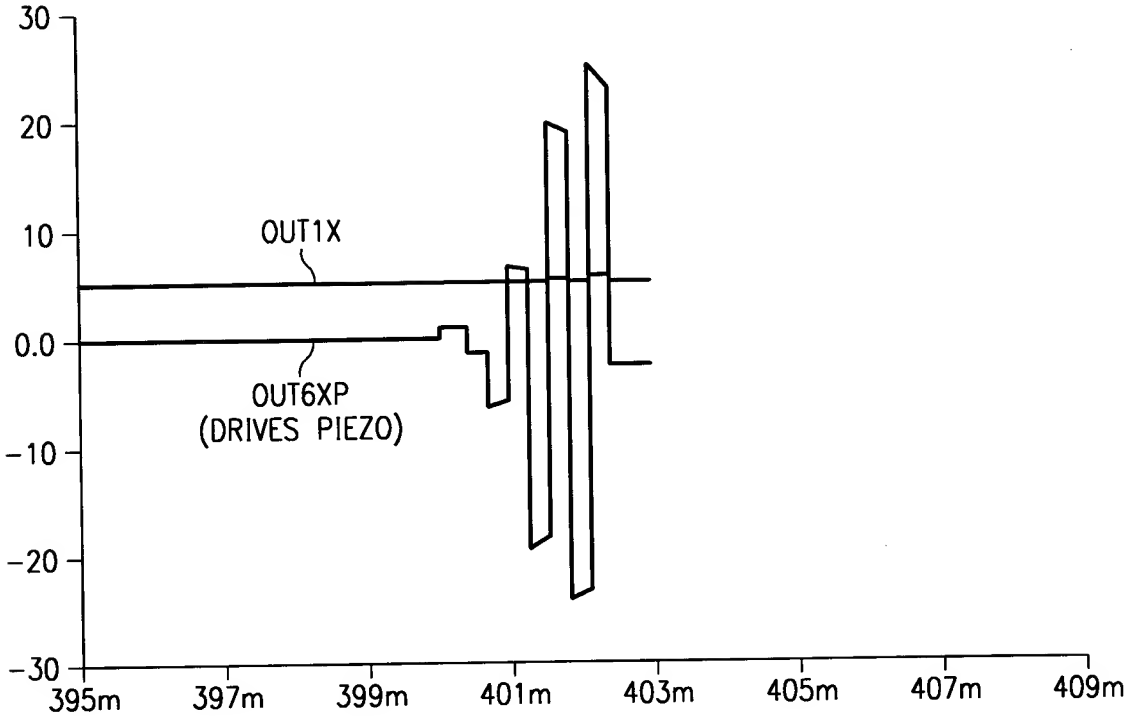

FIG. 7

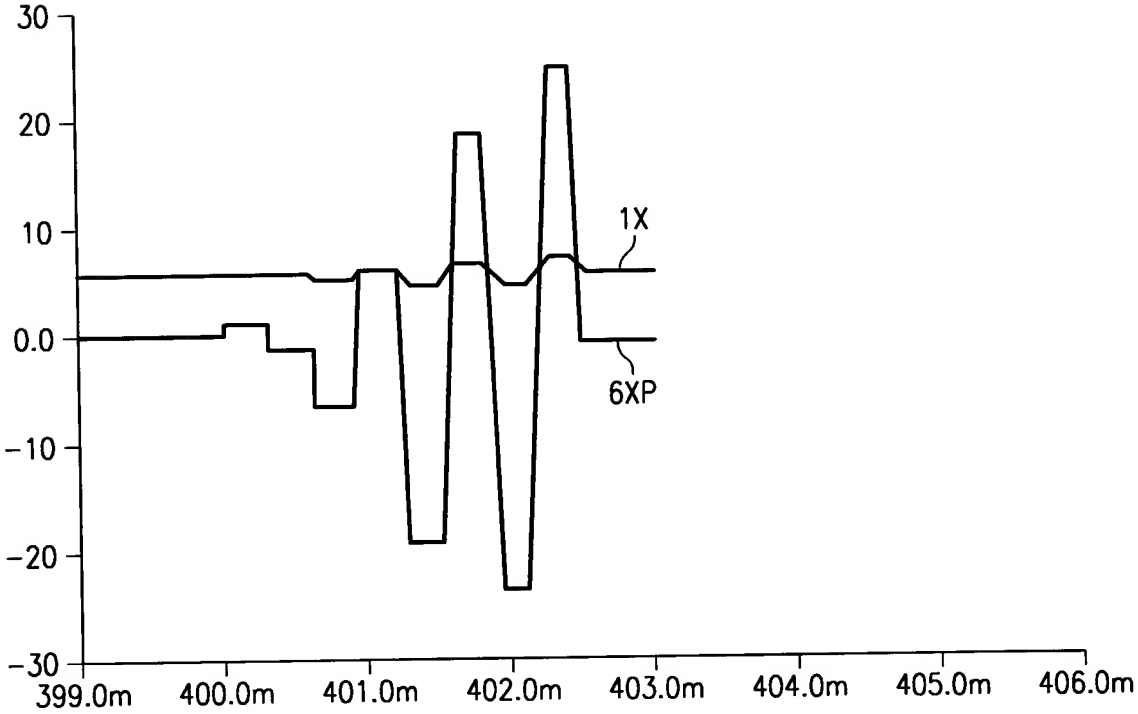

FIG. 8

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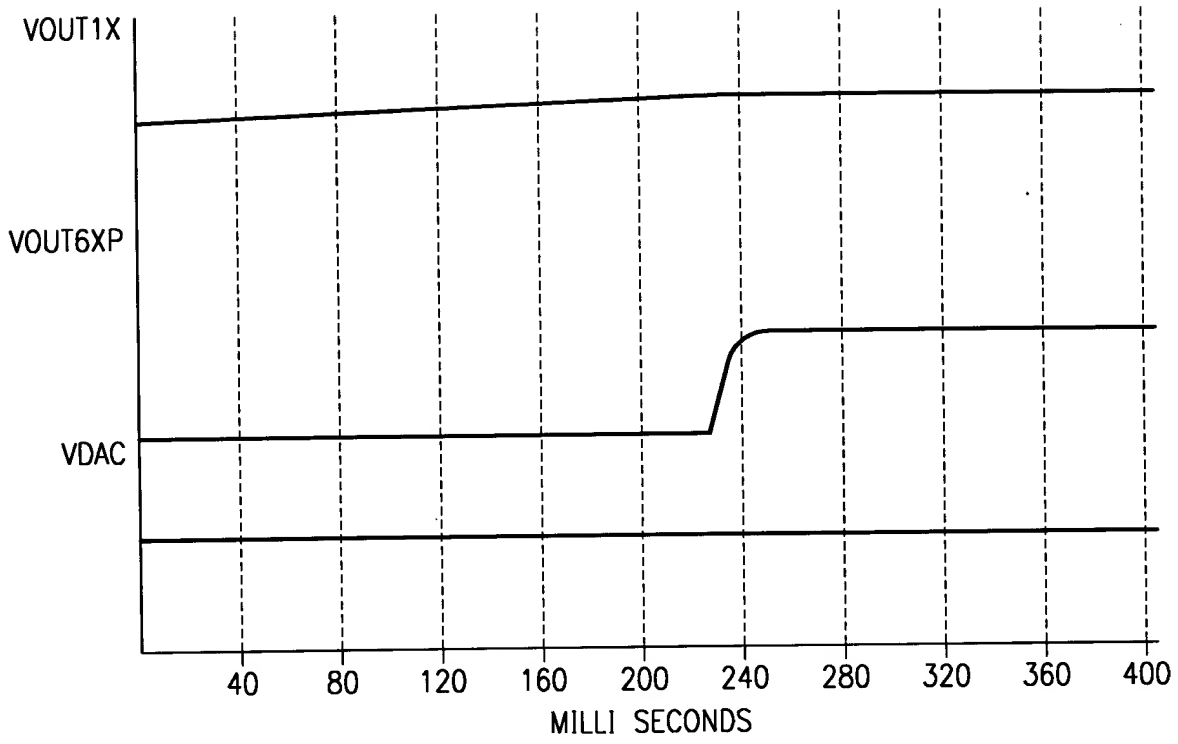

FIG. 9

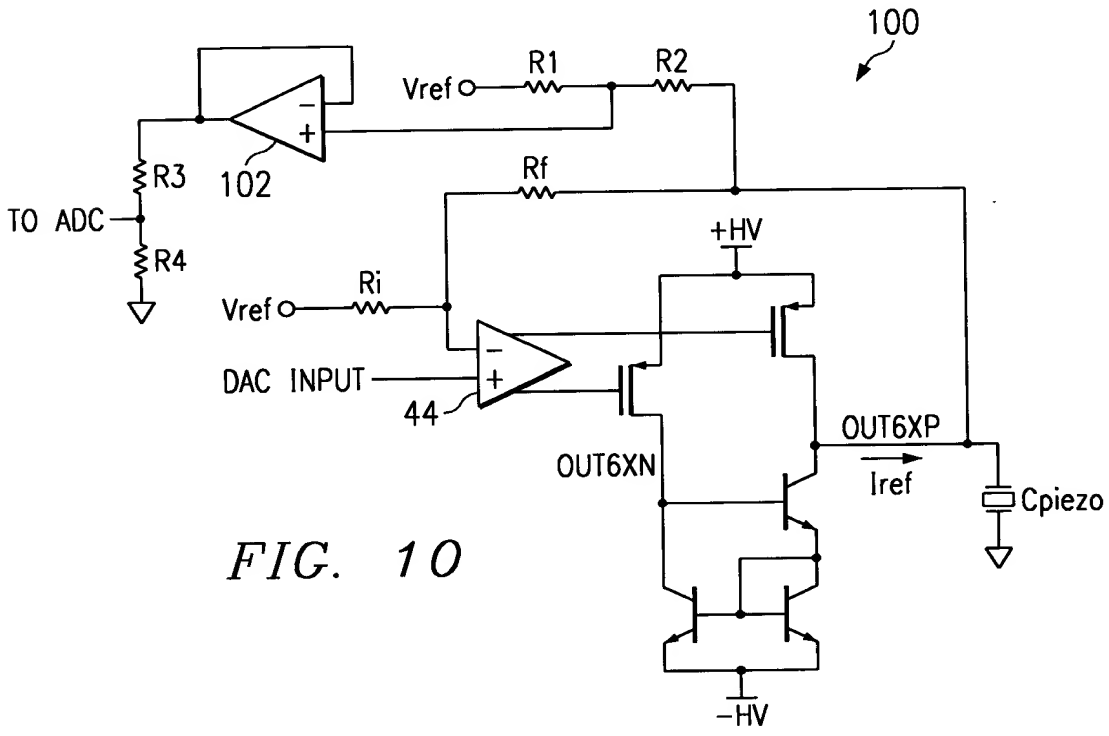

FIG. 10

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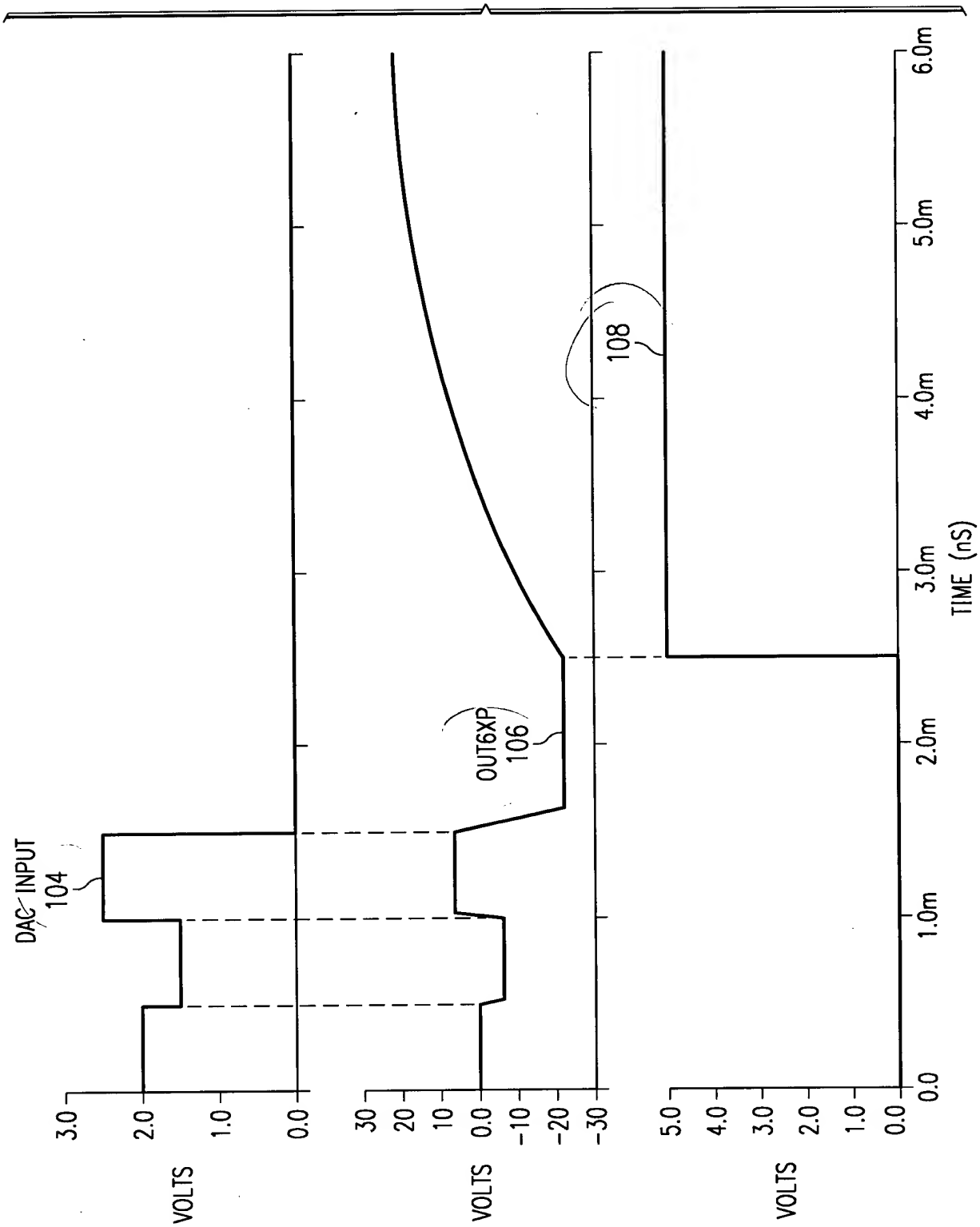
FIG. 11



TO:2501 4926560